

## CLAIMS:

1. Method of handling a group of at least one data object by issuing a data handling request to be processed by a storage device organised in allocation units by execution of at least one storage device request in a pre-determined data handling period, the method comprising the steps of:
  - 5 a) determining the number of data objects to be handled in the data handling period;
  - b) determining an upper boundary for the number of allocation units involved for the data handling request;
  - c) determining an upper boundary for the number of storage device requests by multiplying the number of data handling requests as determined in step a) and the  
10 upper boundary of the number of allocation units involved;
  - d) determining an upper boundary for an amount of time consumed by execution of the data handling request for handling the data objects during the data handling period by determining the amount of time needed for execution of the number of storage device requests as determined in the previous step;
  - 15 e) reserving an amount of time as determined in the previous step in a data handling period for execution of the storage device requests; and
  - f) handling the data objects by executing the storage device requests.
2. Method according to claim 1, wherein
  - 20 a) the maximum size of the data objects is substantially smaller than the size of allocation units;
  - b) the data objects are stored non-contiguously at a substantially equal logic distance from each other such that multiple data objects can be stored in one allocation unit;
  - c) the step of determining an upper boundary for the number of allocation units involved per  
25 data handling request is replaced by the step of determining an upper boundary of the number of data objects determined in step a) of claim 1 spaced at the substantially equal logic distance that is stored fragmented; and

- d) the step of determining an upper boundary for the number of storage device requests is replaced by the step of taking the sum of the number of data handling requests and the number of data objects determined in step c) of this claim.

- 5 3. Method according to claim 1, wherein the method comprises the steps of:  
 a) determining the size of one allocation unit;  
 b) determining the maximum size of a data object; and  
 wherein the upper boundary for the number of allocation units involved is determined by the following expression:

$$10 \quad \begin{aligned} &[\text{number of allocation units involved}] \leq \\ &[\text{maximum size of a data object}] / [\text{size of one allocation unit}] + 2 \end{aligned}$$

4. Method according to claim 2, wherein the method comprises the steps of:  
 a) determining the maximum distance between the data objects;  
 15 b) determining the size of one allocation unit;  
 c) determining the maximum size of a data object; and  
 wherein the upper boundary for the number of allocation units involved is determined by the following expression:

$$20 \quad \begin{aligned} &[\text{number of storage device requests}] \leq \\ &[\text{number of data handling requests}] + ( [\text{number of allocation units involved}] - 1 ) \end{aligned}$$

wherein is the upper boundary of the number of allocation units involved in execution of the data handling requests is determined by the following relation:

$$25 \quad \begin{aligned} &[\text{number of allocation units involved}] \leq ( [\text{number of data handling requests}] \times \\ & ( [\text{maximum distance}] + [\text{maximum size}] ) / [\text{size of allocation unit}] ) + 2 \end{aligned}$$

5. Method according to claim 1, wherein the data objects are video frames comprised by a stream of audiovisual data.

6. Method according to claim 5, wherein the stream of audio-visual data  
 30 comprises inter-coded and intra-coded frames.

7. Method according to claim 6, wherein the multiple data objects to which the data handling requests are related are at least some of the intra-coded frames

8. Method according to claim 1, wherein step d) comprises the step of multiplying the upper boundary for the number of storage device requests by an amount of time consumed by a storage device request.
- 5 9. Method according to claim 8, wherein the amount of time is pre-determined.
10. Method according to claim 1, wherein the storage device is a disk drive and the determination of the upper bound for the amount of time further takes into account at least one of the following parameters:
- 10 a) the amount of time required for one revolution of a disk;  
b) the seek time of a pick-up unit of the disk drive to a location on a disk where a data object is located to which the data handling request is aimed; and  
c) the time needed to retrieve the data object to which the data handling request is aimed.
- 15 11. Method according to claim 2, wherein the storage device is a disk drive and the determination of the upper bound for the amount of time further takes into account at least one of the following parameters:
- a) the amount of time required for one revolution of a disk;  
b) the seek time of a pick-up unit of the disk drive to a first location on a disk where a first  
20 data object is located to which the data handling request is aimed; and  
c) the time needed to retrieve the data object to which the first data handling request is aimed; and  
d) the time needed for the pick-up unit to move from the first location on the disk to a  
25 second location on the disk where a second, subsequent data object is located to which the data handling request is aimed.
12. Method according to claim 1, wherein the determination of the upper boundary for the number of allocation units involved per data handling requests comprises the step of dividing the size of the data object by the size of one allocation unit.
- 30 13. Apparatus for handling a group of at least one data object by a data handling request to be processed by at least one storage device request handled in data handling periods, the data handling to be performed by a storage device organised in allocation units, the apparatus comprising a central processing unit conceived to:

- a) determine the number of data objects to be handled per data handling period;
  - b) determine an upper boundary for the number of allocation units involved per data handling request;
  - c) determine an upper boundary for the number of storage device requests by multiplying  
5 the number of data handling requests by the upper boundary of the number of allocation units involved;
  - d) determine an upper boundary for an amount of time consumed by execution of the storage device requests for handling the data objects during one data handling period by multiplying the upper boundary for the number of storage device requests by an amount  
10 of time consumed by a storage device request;
  - e) reserve an amount of time as determined in the previous step in a data handling period for execution of the storage device requests; and
  - f) handle the data objects by executing the storage device requests.
- 15 14. Computer programme product enabling a computer to be programmed to execute the method according to claim 1.
15. Record carrier carrying computer programme product according to claim 14.
- 20 16. Programmed computer enabled to execute the method according to claim 1.